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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jin Wang

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

PE, GEEPY

ART UNIT

PAPER NUMBER

2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,215	Applicant(s) WANG ET AL.	
	Examiner Geepy Pe	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 1, 2, 8, and 14 are objected to because of the following informalities:

Claim 1, line 15, "enhancement" should be amended to -- enhancement --.

Claim 2, line 16, "including" should be amended to -- includes --.

Claim 2, line 17, after the semi-colon (;), -- and -- should be added.

Claim 8, line 5, "a edge" should be amended to -- an edge --.

Claim 8, lines 5 and 6, "pixel" for consistency, should be amended to -- pixels --.

Claim 14, line 6, "a edge" should be amended to -- an edge --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Claim 1 recites the limitation "the edge detection" in line 11. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 1 recites the limitation "the gain value" in 12. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 12 recites the limitation "the edge analysis" in line 23. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 12 recites the limitation "the gain value" in 24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims **1-11** are rejected under 35 U.S.C. 101 because based upon consideration of all of the relevant factors with respect to the claim as a whole, claim(s) 1-11 are held to claim an abstract idea, and is/are therefore rejected as ineligible subject matter under 35 U.S.C. 101. The rationale for this finding is explained below:

Claim(s) 1-11 is/are rejected under 35 U.S.C. 101 as not falling within one of four statutory categories of inventions. Supreme Court precedent and recent Federal Circuit decisions indicate a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to

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another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example there is no apparatus mentioned either in the preamble nor in the subsequent limitations for executing the method, *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Claims 2-11 depend up the rejected claim 1.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims **1-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallagher et al. (US Pat. App. Pub. US2004/0264799; hereinafter Gallagher).

Re. **claim 1**, Gallagher teaches a method for video stream compression with spatial scalable compression scheme, wherein the video stream is a stream with resolution higher than a specific value, comprising the steps of: a. processing said video stream to obtain a reconstructed stream, wherein the reconstructed stream is a stream with resolution higher than a specific value (Gallagher: Fig. 9); b. comparing said video stream with the reconstructed stream to obtain a residual stream, wherein the residual stream is a stream with resolution higher than a specific value (Gallagher: para. 0090-0095); c. carrying out the edge detection and analysis for said stream with the resolution higher than a specific value to obtain the gain value of a specified number of pixels in the stream (Gallagher: para. 0097-0098; para. 0008); and d. processing said residual stream using said gain value to obtain an enhancement stream (Gallagher: para. 0004, lines 3-5; para. 0008; para. 0039). Yet, Gallagher does not explicitly teach using a gain value and using the gain value to process the residual stream to obtain an enhancement stream.

However, Gallagher does teach finding the dynamic range and using these factors to obtain gain signals to obtain an output image (Gallagher: para. 0008). That is, using the gain signals to produce an enhancement stream, which is a combination of the residual and base images.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a gain value and using the gain value to process the residual stream to obtain an enhancement stream.

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Re. **claim 2**, Gallagher teaches encoding the video stream after drop-sampling to obtain a base stream (Gallagher: Fig. 6, element 103_{n+1}); decoding and rise-sampling said base stream to obtain said reconstructed stream (Gallagher: Fig. 9).

Re. **claim 3**, Gallagher teaches that said specified number of pixels is all of the pixels (Gallagher: para. 0004: i.e., it is done on the whole image, therefore, all the pixels).

Re. **claim 4**, Gallagher teaches that said edge detection and analysis in step c is carried out for said video stream (Gallagher: para. 0008).

Re. **claim 5**, Gallagher teaches that said edge detection and analysis in step c is carried out for said reconstructed stream (Gallagher: para. 0097-0098).

Re. **claim 6**, Gallagher teaches that said edge detection and analysis in step c is carried out for said residual stream (Gallagher: para. 0060: i.e., proper edge detection is needed in the pyramid construction and therefore, edge analysis of the residual stream would be obvious; para. 0008).

Re. **claim 7**, Gallagher teaches carrying out the edge detection and analysis for another said stream with resolution higher than a specific value (Gallagher: para. 0095, lines 9-14).

Re. **claim 8**, Gallagher teaches that step c comprises: obtaining values of a pixel and the surrounding pixels in said stream with resolution higher than a specific value (Gallagher: para. 0102-0104); processing said values according to a predetermined edge analyzing method to confirm a edge type of said pixel (Gallagher: para. 0104, lines 19-20); obtaining the corresponding gain value of said pixel according to the edge type (Gallagher: para. 0098, lines 1-5; para. 0104, lines 19-20).

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Re. **claim 9**, Gallagher teaches that said edge type of the pixels includes edge pixel and non-edge pixel (Gallagher: para. 0104, lines 19-20).

Re. **claim 10**, Gallagher teaches that said edge pixel includes horizontal pixel, vertical pixel or diagonal pixel (Gallagher: para. 0101: i.e., the pixels are known to be horizontal or vertical according to the gradient filter).

Re. **claim 11**, Gallagher teaches that said non-edge pixel point include the smooth pixel or isolated point (Gallagher: para. 0104, lines 11-20: i.e., a smoothing operation was described in para. 0012 and para. 0072).

Re. **claim 12**, the claim(s) recites analogous limitations to claim(s) 1 above, and is/are therefore rejected on the same premise.

Re. **claim 13**, the claim(s) recites analogous limitations to claim(s) 3 above, and is/are therefore rejected on the same premise.

Re. **claims 14-17**, the claim(s) recites analogous limitations to claim(s) 8-11, respectively, above, and is/are therefore rejected on the same premise.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geepy Pe whose telephone number is (571)-270-3703. The examiner can normally be reached on Monday - Friday, 7:00AM - 3:30PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. P./

/Geepy Pe/

Examiner, Art Unit 2621

/Andy S. Rao/

Primary Examiner, Art Unit 2621

September 2, 2010